AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. - 32. (Cancelled)

33. A process for the hydrolysis of a fluorinated epoxide comprising one or more CF_3 groups, said process comprising treating said epoxide, in the presence of water, with a protein having an epoxide hydrolase (EH) activity on CF_3 epoxides so as to induce opening of the epoxide and formation of the vicinal diol.

34. The process as claimed in Claim 33, wherein the protein having an epoxide hydrolase (EH) activity on CF_3 epoxides comprises the following amino acid sequence:

i. the amino acid sequence SEQ ID NO: 2; or

ii. a sequence having a percentage homology of greater than or equal to 40%, with SEQ ID NO: 2, the protein thus defined having an EH activity on CF_3 epoxides; or

iii. a sequence comprising at least 10 consecutive amino acids of SEQ ID NO: 2 or of a sequence as defined in ii, the protein thus defined having an EH activity on CF_3 epoxides.

35. The process as claimed in Claim 34, wherein under ii. the sequence has a percentage homology of greater than or equal to 80% with SEQ ID NO: 2

36. The process as claimed in Claim 34, wherein under ii. the sequence has a percentage homology of greater than or equal to 85% or 90% with SEQ ID NO: 2.

37. The process as claimed in Claim 34, wherein under ii. the sequence has a percentage homology of greater than or equal to 95, 96, 97, 98 or 99% with SEQ ID NO: 2.

38. The process as claimed in Claim 34, wherein under iii. the sequence comprises at least 20 consecutive amino acids of SEQ ID NO: 2 or of a sequence as defined in ii.

39. The process as claimed in Claim 34, wherein under iii. the sequence comprises at least 50 or 100 consecutive amino acids of SEQ ID NO: 2 or of a sequence as defined in ii.

40. The process as claimed in Claim 33, wherein the protein is encoded by a nucleic acid comprising the following sequence:

(a) the nucleotide sequence represented in SEQ ID NO: 1;

(b) a nucleotide sequence which encodes the amino acid sequence SEQ ID NO: 2;

(c) a nucleotide sequence which differs from the sequence according to (a) or (b) by virtue of the degeneracy of the code;

(d) a nucleotide sequence which hybridizes to a sequence according to (a), (b) or (c), and encoding a protein having an EH activity on CF_3 epoxides;

(e) a nucleotide sequence having a percentage identity of greater than or equal to 45% with SEQ ID NO: 1, and encoding a protein having an EH activity on CF_3 epoxides; or

(f) a fragment of a nucleotide sequence according to (a), (b), (c), (d) or (e), comprising at least 30 consecutive nucleotides, and encoding a protein having an EH activity on CF_3 epoxides.

41. The process as claimed in Claim 40, wherein under (e), the nucleotide sequence has a percentage identity of greater than or equal to 80%, 85% or 90% with SEQ ID NO: 1.

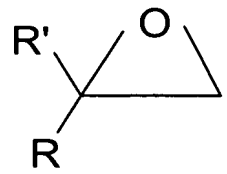
42. The process as claimed in Claim 40, wherein under (e), the nucleotide sequence has a percentage identity of greater than or equal to 95, 96, 97, 98 or 99% with SEQ ID NO: 1.

43. The process as claimed in Claim 40, wherein under (f), the fragment comprises at least 60 consecutive nucleotides.

44. The process as claimed in Claim 40, wherein under (f), the fragment comprises at least 150 or 300 consecutive nucleotides.

45. The process as claimed in Claim 33, wherein the protein is the epoxide hydrolase of *Aspergillus niger* LCP521, which is natural or recombinant.

46. The process as claimed in Claim 33, wherein the epoxide corresponds to formula (I):



in which:

the group R is an alkyl, alkenyl, cycloalkyl, aryl or aralkyl group optionally substituted with alkyl, alkoxy, alkylthio or halogen; R optionally comprising one or more hetero atoms such as O or S; the alkyl, alkoxy and alkylthio substituents comprising a linear, branched or cyclic C_1-C_6 hydrocarbon-based chain, optionally comprising one or more halogen atoms ; and

the group R′ is H or a linear, branched or cyclic C_1-C_{10} alkyl, optionally comprising one or more hetero atoms;

wherein at least one of the radicals R and R′ is, or comprises, one or more trifluoromethyl (CF_3) groups.

47. The process as claimed in Claim 46, wherein in the epoxide of formula (I) R′ is H or a C_1, C_2 or C_3 linear alkyl, optionally substituted with one or more halogen atoms.

48. The process as claimed in Claim 46, wherein in the epoxide of formula (I) R′ is H or C_1 alkyl optionally substituted with one or more halogen atoms.

49. The process as claimed in Claim 46, wherein in the epoxide of formula (I) R' is H or C_1 alkyl substituted with 3F atoms.

50. The process as claimed in Claim 46, wherein in the formula (I), the group R is selected from the following groups:

linear or branched alkyls having from 1 to 10 C, optionally substituted with one or more halogen atoms;

cycloalkyl having from 3 to 10 C, optionally substituted with one or more halogen atoms;

phenyl or naphthyl, optionally substituted with one or more halogen atoms;

aralkyl having from 7 to 18 C, optionally substituted with one or more halogen atoms.

51. The process as claimed in Claim 50, wherein in the epoxide of formula (I) R comprises from 1 to 3 CF_3 groups.

52. The process as claimed in Claim 50, wherein in the epoxide of formula (I) R is a phenyl substituted with from 1 to 3 groups selected from the group consisting of trifluoromethyl, trifluoromethoxy and trifluoromethylthio.

53. The process as claimed in Claim 33, wherein the epoxide is a mixture of (R) and (S) enantiomers.

54. The process as claimed in Claim 53, wherein the mixture is racemic.

55. The process as claimed in Claim 33, wherein an epoxide hydrolysis is carried out with an enantioselectivity coefficient of greater than or equal to 10.

56. The process as claimed in Claim 55, wherein the enantioselectivity coefficient is greater than or equal to 30.

57. The process as claimed in Claim 53, wherein an enantioselective hydrolysis is carried out and a mixture enriched in one of the isomers and in the diol corresponding to the other isomer is produced.

58. The process as claimed in Claim 54, wherein an enantioselective hydrolysis is carried out and a mixture enriched in one of the isomers and in the diol corresponding to the other isomer is produced.

59. The process as claimed in Claim 33, wherein a preparation enriched in (S) epoxide and in (R) diol is produced.

60. The process as claimed in Claim 59, wherein at the end of the hydrolysis reaction, the (R) diol is separated from the (S) epoxide, and the latter is recovered.

61. The process as claimed in Claim 33, wherein a preparation enriched in (R) epoxide and in (S) diol is produced.

62. The process as claimed in Claim 61, wherein, at the end of the hydrolysis reaction, the (S) diol is separated from the (R) epoxide, and the latter is recovered.

63. The process as claimed in Claim 33, wherein a preparation enriched in (R) diol is produced and, at the end of the hydrolysis reaction, the (S) epoxide is separated from the (R) diol, and the latter is recovered.

64. The process as claimed in Claim 33, wherein a preparation enriched in (S) diol is produced and, at the end of the hydrolysis reaction, the (R) epoxide is separated from the (S) diol, and the latter is recovered.

65. The process as claimed in Claim 33, wherein an epoxide hydrolysis is carried out with an enantioselectivity coefficient of less than 10.

66. The process as claimed in Claim 65, wherein the (R) and (S) isomers are hydrolyzed and a racemic or nonracemic diol is produced.

67. The process as claimed in Claim 33, wherein the epoxide is in solution in a water-miscible organic solvent.

68. The process as claimed in Claim 67, wherein said solvent is selected from the group consisting of dimethyl sulfoxide, dimethylformamide, acetone, tetrahydrofuran, dioxane and propanol, and mixtures thereof.

69. The process as claimed in Claim 33, wherein the epoxide is in solution in a water-immiscible organic solvent.

70. The process as claimed in Claim 69, wherein said solvent is selected from the group consisting of isooctane, hexane, cycloalkanes and aromatic compounds, and mixtures thereof.

71. The process as claimed in Claim 69, wherein an emulsion is formed between the organic solution of the epoxide and an aqueous solution of the protein with EH activity.

72. The process as claimed in Claim 33, wherein the protein with EH activity is in an aqueous solution.

73. The process as claimed in Claim 33, wherein an enantiomeric excess of (R) or (S) epoxide of greater than or equal to 97% is produced.

74. The process as claimed in Claim 33, wherein a preparation that is enantiopure or enantiomerically enriched in (R) or (S) epoxide or diol is produced, the epoxide or the diol being a pharmaceutical, plant protection or agrochemical

product or an intermediate of a pharmaceutical, plant protection or agrochemical product.

75. A composition useful for implementing the process as claimed in Claim 33 comprising, for successive or simultaneous addition, a fluorinated epoxide comprising one or more CF_3 groups and an organic solvent.

76. The composition as claimed in Claim 75, comprising a water-miscible organic solvent selected from the group consisting of dimethyl sulfoxide, dimethylformamide, acetone, tetrahydrofuran, dioxane and propanol, and mixtures thereof.

77. The composition as claimed in Claim 75, comprising a water-immiscible organic solvent selected from the group consisting of isooctane, hexane, cycloalkanes and aromatic compounds, and mixtures thereof.